Summary of Arguments regarding Yamada et al.

Office Action	Applicants' Response
February 12, 2002 Non-Final Rejection Using the specification as a dictionary in order to define the Y/X index, it is noted that page 5, lines 20-24 and page 6 lines 1-3 define the index as a measure of the degree of dispersion of the aluminum hydroxide in the resin and that the higher the dispersion degree, the smaller the index. Therefore, although there is no explicit disclosure in Yamada et al. that the composition has index Y/X of 0.1 or less as presently claimed, given that Yamada et al. disclose that the dispersion of the filler in the resin is very uniform and in light of the definition of the Y/X index as described above, it is clear that the composite of Yamada et al., which possesses high degree of dispersion, i.e. filler is very uniformly dispersed, would inherently possess index Y/X of 0.1 or less as presently claimed. In light of the above, it is clear that Yamada et al. anticipates the present claims.	August 5, 2002 Amendment According to Yamada, the primary object of the invention of Yamada et al. is to provide a novel and improved method for producing a filler-loaded thermoplastic resin composite, in which scattering of the filler is reduced to a great extent with consequent acceleration of the mixing. In the method, a fibril-forming, i.e., fibrillatable PTFE (polytetrafluoroethylene), is mixed with the thermoplastic resin and the filler. There is no disclosure or suggestion that the uniform composite would be obtained without using a fibril-forming polytetrafluoroethylene. On the other hand, as recited in claim 1, the claimed resin composite comprises a resin and an aluminum hydroxide having an average primary-particle diameter of about 50 nm or smaller. In the resin composite in the present invention, an aluminum hydroxide is well dispersed to the degree that the resin composite has an index Y/X of 0.1 or less, even if the average primary-particle diameter of the aluminum hydroxide is very small, specifically 50 nm or smaller, without using a fibril-forming agent such as polytetrafluoroethylene. ... Such a method makes it possible for a nanometer-size aluminum hydroxide to be dispersed uniformly in a resin, which is not disclosed or is not suggested in Yamada.
October 15, 2002 Final Rejection Specifically, applicant argues that Yamada requires fibrillatable PTFE in order t produce uniform composite while the present claims do not require such polymer. However, in light of the open language of the present claims, i.e. "comprising", it is clear that the present claims are open to the inclusion of additional ingredients including fibrillatable PTFE as disclosed by Yamada.	April 15, 2003 Amendment & Notice of Appeal Yamada et al. disclose a method for producing a filler-loaded thermoplastic resin composite. The filler in the composite include aluminum hydroxide. The filler usually has an average particle diameter of from 10-50,000 nm. In the method of Yamada, a fibril-forming, i.e. fibrillatable PTFE, is mixed with the thermoplastic resin and the filler. Yamada et al. disclose that the resin composite prepared by mixing 90-60 parts of resin, 10-40 parts of filler having an average particle diameter of about 8 μm and 0 or 0.5 parts of fibrillatable PTFE, and evaluations of filler dispersion in all resin composites given the same results, i.e. "good". The dispersion evaluation was conducted visually. According to above mentioned disclosure, Yamada clearly teach that

	the degree of filler dispersion in a filler-loaded resin composition with fibrillatable PTFE is the same as that without fibrillatable PTFE, and the addition of fibrillatable PTFE does not necessarily improve filler dispersion in a filler-loaded resin composite. On the other hand, a resin composite of the present invention can be provided, for example, by a method comprising the steps of mixing an aqueous resin emulsion containing a resin with aluminum hydroxide having an average primary-particle diameter of 50 nm or smaller, letting the resin and the aluminum hydroxide therein aggregate to obtain a slurry containing the resin composite and separating the composite from the slurry. A resin composite of the present invention, as shown in Comparative Example 1, can hardly be provided by the method of Yamada (the method of mixing a resin in particulate from such as powders, granules, beads, pellets, with filler and fibrillatable PTFE). Therefore, a filler-loaded resin composition including fibrillatable PTFE disclosed by Yamada is considered to have an index more than 0.1. In order to provide further evidence of the above fact, the present inventor prepared a resin composite, in reference to Yamada's method as cited above, by the method of mixing with styrene-butadiene rubber, aluminum hydroxide having an average particle diameter of 13 nm and fibrillatable PTFE, and evaluate the index of the obtained resin composite. The obtained resin composite had an index of more than 0.1. First Declaration April 7, 2003
April 30, 2003 Advisory Action In the declaration, applicant produces resin composite by mixing in a kneader styrene-butadiene rubber, AlOH, and fibrillatable PTFE, which appears to follow the method of example 2 in Yamada. However, there appears to be another method disclosed by Yamada. Col. 5 of Yamada disclose that the particulate resin and the filler(AlOH), are mixed in the presence of fibrillatable PTFE whereby the resin and filler agglomerate, i.e. aggregate. The aggregate then forms a resin composite upon further mixing. Further, col. 4 disclose that in one embodiment the PTFE is used in the form of an aqueous emulsion. Additionally, in other examples of Yamada such as examples 3-5, kneading in not required, i.e. "non-kneaded". Thus, given that Yamada	

disclose mixing aqueous resin emulsion with AlOH to form agglomerate or aggregate which then forms resin composite, which is similar to the method used in the present invention given that no kneading is utilized and the resin composite is formed from agglomerate of resin and AlOH, it follows that such resin composite would also inherently possess Y/X index as presently claimed.	
	June 16, 2003 RCE & IDS
July 29, 2003 Non-Final Rejection same statement as above Advisory Action	January 29, 2004 Amendment In the outstanding Office Action, the USPTO appears to assert that "non-kneaded" Examples 3-5 in Yamada parallel mixing an aqueous resin emulsion with AlOH to form an agglomerate or aggregate, which then forms a resin composite. Yamada described in Example 3 that "Two kinds of non- kneaded resin blends were prepared with 50 parts of a pelletized polypropylene..., 50 parts of talc... and 0.05 parts of an antioxidant..., with or without 0.2 fibrillatable PTFE. The resin blends had a moisture content of 0.2% by weight.... A 5 kg portion of each of the above prepared blends was put into a super mixer of 20 liter capacity and mixed for 5 minutes... According to the above expression, especially "moisture content of 0.2%", it is explicit that the obtained resin blends of Yamada are not emulsion.
May 4, 2004 Final Rejection While it is agreed that examples 3-5 of Yamada et al. use fibrillatable PTFE in amounts, i.e. 0.2 parts, such that the moisture content of the resin blend is 0.2%, it is noted that these are just some preferred embodiments of Yamada et al. A fair reading of the reference as a whole discloses the use of larger amounts of fibrillatable PTFE, i.e. up to 5%, and discloses the use fibrillatable PTFE in the form of an emulsion using larger amounts of water given that the emulsion contains several tens of % to up to 60% PTFE. When the fibrillatable PTFE is used in larger amounts wherein the emulsion contains larger amounts of water, it would appear that Yamada et al. do disclose resin composite which would inherently possess Y/X index as presently claimed. That is, given that Yamada et al. disclose mixing aqueous resin emulsion with AlOH to form agglomerate or aggregate which then forms resin composite and given that this method is similar to the method used in the present invention	November 4, 2004 Notice of Appeal April 4, 2005 RCE & Amendment, April 5, 2005 Supplement Amendment As disclosed in Examples 3-5 of Yamada, even if an aluminum hydroxide is mixed with a resin and PTFE in the form of aqueous emulsion without kneading, a resin composite having an Y/X of 0.1 or less as claimed in the present invention is not obtained. In order to evidence this fact, Applicants submit herewith a second 37 CFR § 1.132 Declaration is that of Mr. Kazuki TAKEMURA. Second Declaration March 29, 2005

given that no kneading is utilized and that the resin composite is formed from agglomeration of resin and AlOH, it follows that such resin composite would also inherently possess Y/X index as presently claimed. Applicant argues that the resin blends obtained in examples 3-5 of Yamada et al. are the same or similar to those in example 2. However,, given that example 2 refers to kneaded resin composites while examples 3-5 refer to non-kneaded resin blends, it is not clear how the resin blends in example 3-5 are the same as those in example 2. Given that differences methods are used to produce the resin blends it would appear that a resulting difference in resin blends would occur including difference in the dispersion of the AlOH in the resin. Clarification is required.	
July 1, 2005 Non-Final Rejection In the declaration filed 4/5/05, applicant produces resin composite by mixing aluminum hydroxide powder with PTFE emulsion and then drying to form mixture which is then mixed with styrene butadiene rubber (SBR), zinc oxide, stearic acid, age resister, wax, vulcanizing accelerator, and sulfur followed by molding. However, the declaration is not persuasive because there is not proper side-by-side comparison between the present invention and that of Yamada et al. Specifically, it is not clear what method is used in the declaration to form the resin composite or why the method appears different from that of Yamada et al. and that utilized in the present invention as well as that utilized in the first declaration filed 4/15/03. That is, in Yamada et al., the aluminum hydroxide and resin, i.e. SBR, are mixed in the presence of aqueous PTFE emulsion whereby resin and aluminum hydroxide agglomerate and from the agglomerate, resin composite is produced. In the present specification, aluminum hydroxide is mixed with SBR to form mixture to which is added various activities (NaCl solution, age resister, extender oil, etc.) followed by drying. To the dried cake is added vulcanizing accelerator, sulfur, zinc oxide, stearic acid, age register, and wax. However, in the experiment set forth in the declaration, the aluminum hydroxide and resin emulsion are mixed followed by drying and then addition of SBR and zinc oxide, stearic acid, etc. Thus, it is not clear why in the declaration, the aluminum hydroxide and resin emulsion are first dried and then added to SBR. It is not clear what, if any, effect drying the aluminum hydroxide/PTFE	

emulsion mixture would have on the Y/X value of the produced resin composition. It is not clear what effect the difference in the method utilized in the present specification and the method utilized in the declaration would have on the Y/X index of the produced resin composite. Clarification is requested.	